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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,618	08/13/2001	Jean-Francois Latour	P5477 US	7991

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MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398

EXAMINER	
TRUONG, CAMQUY	
ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/928,618	LATOUR, JEAN-FRANCOIS	
	Examiner	Art Unit	
	Camquy Truong	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/13/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-40 are presented for examination.

2. It is noted that although the present application does contain line numbers in the specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the examiner and Applicant all future correspondence should include the recommended line numbering.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-13, 15-25, 27-35, 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable Perotto et al. (U.S. Patent 5,630,130).

4. As to claims 1, 10, 19 and 32, Perotto teaches the invention substantially as claimed including: a resource access control mechanism for a multi-thread computing environment (col. 5, lines 3-4), the mechanism being operable:

one or more mutexes, wherein the sequence of mutexes is associated with a resource (col. 5, lines 5-6);

when a requesting thread attempts an access to the resource, to lock a mutex, wherein the locked mutex is allocated to the requesting thread (col. 5, lines 6-7), and

to attempt to lock a previous mutex in sequence if present, whereby the requesting thread is suspended it the previous mutex is already locked until the previous thread finishing access to the resource (col. 5, lines 8-12; col. 5, line 66 – col. 5, line 5).

5. Perotto does not explicitly teach that managing a sequence of one or more mutexes. However, Perotto teaches semaphores are use to control access to share resource (col. 5, lines 5-6).

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Perotto because Perotto's managing a sequence of mutexes as claimed would increase the flexibility of Perotto's system by providing the step of managing mutexes to increase the effective size of the task performed by the microprocessor and reduce its operating speed and power consumption.

7. As to claim 22, it is reject for the same reason as claim 1 above. In addition, Perotto teaches:

A Processor (microprocessor, col. 1, line 2);

A memory storing a method for controlling access to a resource for a multi-thread computing environment wherein upon execution of said method on said processor (col. 1, lines 2-15).

8. As to claims 2, 11, 23, 33, Perotto teaches the mechanism being operable, on attempting to lock a previous mutex in the sequence when the previous mutex is unlocked, to lock the previous mutex on behalf of the requesting thread and then to unlock the previous mutex on behalf of the requesting thread (col. 5, lines 5-10).

9. As to claims 3, 12, 24, and 34, Perotto teaches the resource access control mechanism unlocks the mutex allocated to the requesting thread in response to the requesting thread completing access to the resource (col. 5, lines 8-9).

10. As to claims 4, 13, 25 and 35, Perotto teaches the mechanism includes an internal mutex operable to protect the locking of the mutex allocated to the requesting thread (col. 5, lines 9-12).

11. As to claims 6-9, 15-18, 27-30 and 37-40, Perotto does not explicitly teach the sequence of mutexes is held in an array, a ring buffer, a linked list and a circular linked list. However, it is well known to those skilled in the art, that array, a ring buffer, a linked list and a circular linked list are used to hold a list of nodes or elements of a data structure connected by pointers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an array, a ring buffer, a linked list and a circular linked list because they would be desirable to perform the customization the most efficient manner possible.

12. As to claims 20-21, Perotto teaches the carrier medium comprise a storage medium (col. 1, lines 9-12).

13. As to claim 31, Perotto teaches the method stored in the memory comprise a computer program (col. 1, lines 23-30).

14. Claims 5, 14, 26 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perotto et al (U.S. Patent 5,630,130), as applied to claims 1, 10, 19, and 32 above, in view of Applicant Admitted Prior Art (AAPA).

15. As to claims 5, 14, 26 and 36, Perotto does not explicitly teach the resource comprise a print function. However, AAPA teaches the resource comprise a print function (page 2, lines 15-16).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings Perotto and AAPA because AAPA's print function, as resource would provide a more efficient solution to the provision of serializing thread access to printer resources.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camquy Truong whose telephone number is (571) 272-3773. The examiner can normally be reached on 8AM – 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3756.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR of Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

April 7, 2005

MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100